

PES-0055

CLAIMS

1 – 26. (Cancelled)

27. (Previously Presented) The frame member of claim 36, further comprising:

a second gap defined in said inner periphery, said second gap being radially offset along said inner periphery in a second direction from said fluid port, said second direction being opposite said first direction, said second gap being in fluid communication with said inner periphery, a different one of said plurality of fluid manifolds defining a fluid flow channel between said fluid port and said second gap.

28. (Previously Presented) The frame member of claim 36, wherein said plurality of fluid manifolds and said gap enhance fluid distribution across a flow field defined within said inner periphery.

29. (Currently Amended) ~~The frame member of claim 24, further comprising:~~ A frame member for an electrochemical cell stack, comprising:

an outer periphery;an inner periphery;a surface defined between said outer periphery and said inner periphery;a fluid port defined axially through said surface, said fluid port having a length along said inner and said outer peripheries;a plurality of fluid manifolds defined in said surface, each of said plurality of fluid manifolds defining a fluid flow channel extending radially from said fluid port to said inner periphery, and at least one of said plurality of fluid manifolds extending along said inner periphery a distance beyond said length of said fluid port; and

a protector lip provided at said inner periphery, said protector lip being adapted to prevent a flow field of the electrochemical cell stack from extruding into said plurality of fluid manifolds.

PES-0055

30. (Original) The frame member of claim 29, wherein said protector lip is integral with the frame member.

31. (Original) A frame member for an electrochemical cell stack, comprising:
an outer periphery;
an inner periphery;
a surface defined between said outer periphery and said inner periphery;
a fluid port defined axially through said surface, said fluid port having a length along said inner and said outer peripheries;

a plurality of fluid manifolds defined in said surface, each of said plurality of fluid manifolds defining a fluid flow channel between said fluid port and said inner periphery, and at least one of said plurality of fluid manifolds extending along said inner periphery a distance beyond said length of said fluid port; and

a gap disposed in said inner periphery, said gap extending about said inner periphery and being radially offset along said inner periphery in a first direction from said fluid port, said at least one of said plurality of fluid manifolds defining a fluid flow channel between said fluid port and said channel.

32. (Cancelled)

33. (Previously Presented) In a hydrogen generating system including a water source, an electrochemical cell stack, an electrical source, a first separator, a second separator, a dryer, a controller, and a ventilation system, wherein the improvement comprises:

a first flow field within said electrochemical cell stack between a first electrode and a separator, said first flow field being surrounded in the radial direction by a first frame, and a second flow field between a second electrode and a separator surrounded in the radial direction by a second frame, a boundary defined between an inside edge of said first frame and an outside edge of said flow field, wherein said boundary is configured with gaps in fluid communication with one or more manifolds.

PES-0055

34. (Currently Amended) ~~The frame member of claim 24, further comprising~~ A frame member for an electrochemical cell stack, comprising:

an outer periphery;

an inner periphery;

a surface defined between said outer periphery and said inner periphery;

a fluid port defined axially through said surface, said fluid port having a length along said inner and said outer peripheries;

ridges disposed on said surface proximate to said fluid port; and

a plurality of fluid manifolds defined in said surface, each of said plurality of fluid manifolds defining a fluid flow channel extending radially from said fluid port to said inner periphery, and at least one of said plurality of fluid manifolds extending along said inner periphery a distance beyond said length of said fluid port.

35. (Previously Presented) The frame member of claim 31, further comprising ridges disposed on said surface proximate to said fluid port.

PES-0055

36. (Previously Presented) A frame member for an electrochemical cell stack, comprising:
- an outer periphery;
 - an inner periphery;
 - a surface defined between said outer periphery and said inner periphery;
 - a fluid port defined axially through said surface, said fluid port having a length along said inner and said outer peripheries;
 - a plurality of fluid manifolds defined in said surface, each of said plurality of fluid manifolds defining a fluid flow channel between said fluid port and said inner periphery, and at least one of said plurality of fluid manifolds extending along said inner periphery a distance beyond said length of said fluid port; and
 - a gap defined in said inner periphery, said gap being radially offset along said inner periphery in a first direction from said fluid port, said gap being in fluid communication with said inner periphery, said at least one of said plurality of fluid manifolds defining a fluid flow channel between said fluid port and said gap.